Fig. 15 shows a multi-wavelength light amplifier according to a fourteenth embodiment of the present invention. This amplifier includes a rejection filter 30 provided between the first-stage amplifier 1 and the second-stage amplifier 2. The rejection filter 30 prevents the noise light outside of the signal band propagated from the ER-doped optical fiber 7 from passing therethrough, and improves the exciting efficiency of the second-stage amplifier 2. The rejection filter 30 can be applied to the other embodiments of the present invention in the same manner as shown in Fig. 15.

REMARKS

Reconsideration and allowance of the above referenced application is respectfully requested.

The present application includes claims 1-7 which correspond, respectively, to canceled claims 21, 28, 33, 38, 40, 50 and 51 in parent application 09/761,710. Therefore, generally, the present application was filed to continue prosecution of claims canceled in the parent application.

The specification is amended herein, to make the same amendments as those in the parent application.

If any further fees are required in connection with the filing of this Preliminary Amendment, please charge same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: March 4, 2002

By: [signature]
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please REPLACE the paragraph beginning at page 1, line 25, with the following paragraph:

A light amplifier is known which has an optical fiber doped with a rare-earth element and directly amplifies the input light. There has been some activity in the development of a multi-wavelength light amplifier which amplifies [amplifiers] a wavelength division multiplexed light signal including signal components having different wavelengths (channels).

Please REPLACE the paragraph beginning at page 2, line 35 and continuing through page 3, line 10, with the following paragraph:

The above-multi-wavelength light amplifier may be configured as follows. The first-stage light amplifier comprises a first pump source which pumps the first light amplifying optical fiber so as to have a first gain vs wavelength characteristic in which, as a wavelength of the light to be amplified becomes shorter, a gain of the first-stage light amplifier becomes higher. The second-stage light amplifier comprises a second pump source which pumps the second light amplifying optical fiber so as to have a second gain vs wavelength characteristic in which, as a wavelength of light to be amplified becomes longer, a gain of the first-stage light amplifier becomes higher.

Please REPLACE the paragraph beginning at page 11, line 29 and ending on page 12, line 8, with the following paragraph:

The above waveform dependence of the gain can be maintained at a constant level irrespective of a variation in the input power by [means of] the feedback loop including the light splitting coupler 12, the photodiode 13, the ALC circuit 14 and the variable attenuator 11. The split light from the beam splitting coupler 12 is applied to the photodiode 13, which generates an electric signal corresponding to the light level. The above electric signal is applied to the variable attenuator 11, and the amount of attenuation caused therein is varied on the basis of the light level detected by the photodiode 13. In this manner, the light output level of the second-stage amplifier 2 can be maintained at a constant level. The variable attenuator 11 may be formed by using a Faraday rotator or the electro-optical effect of a lithium niobate ($LiNbO_3$) crystal.

Please REPLACE the paragraphs beginning at page 23, line 13 and ending on line 38, with the following paragraphs:

The first-stage amplifier 1B, which has a gain vs wavelength characteristic as shown in part (a) of Fig. 2, has a forward-direction photodiode 20_1, which detects [an amplified spontaneous emission (ASE)] a spontaneous emission (SE) leaking from the side surface of the Er-doped optical fiber 7. The AGC circuit 6_1 is supplied with the output signal of the photodiode 20_1 and controls the pump power of the pump source 9_1 so that the [amplified] spontaneous emission can be maintained at a predetermined constant level. As a result of the AGC control, the gain of the front-stage amplifier 1B can be maintained at the predetermined constant value.

Similarly, the second-stage amplifier 2B, which has a gain vs wavelength characteristic as shown in part (b) of Fig. 2, has a forward-direction photodiode 20_2, which detects the [amplified] spontaneous emission leaking from a side surface of the Er-doped optical fiber 8. The AGC circuit 6_2 is supplied with the output signal of the photodiode 20_2 and controls the pump power of the pump source 9_2 so that the [amplified] spontaneous emission can be maintained at a predetermined constant level. As a result of the above AGC control, the gain of the second-stage amplifier 2B can be maintained at the predetermined constant level.

Please REPLACE the paragraph beginning at page 27, line 32 and ending on line 28, with the following paragraphs:

Fig. 15 shows a multi-wavelength light amplifier according to a fourteenth embodiment of the present invention. This amplifier includes a rejection filter 30 provided between the first-stage amplifier 1 and the second-stage amplifier 2. The rejection filter 30 prevents the [pump light] noise light outside of the signal band propagated from the ER-doped optical fiber 7 from passing therethrough, and improves the exciting efficiency of the second-stage amplifier 2. The rejection filter 30 can be applied to the other embodiments of the present invention in the same manner as shown in Fig. 15.